

Discussion on "RF-Focused Spoke Resonator" by Robert Garnett

The apertures on the spokes are elongated slots, instead of circular holes. This choice was made based on a 2D study by Rick Wood, that showed a cleaner quadrupole characteristics for using this feature.

Garnett pointed out that this concept does couple transverse and longitudinal focusing which removes some flexibility. Shepard answered that one could envision the use of a mix of RF-focus and regular spokes to separate the transverse and longitudinal focusing again. This would remove some of the gained compactness, but still would be more efficient than the use of external focusing elements. A similar concept has been used at TRIUMF, where an extra cavity was injected to provide longitudinal focus.